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Aromatic profile of aqueous banana essence and banana fruit by gas chromatography-mass spectrometry (GC-MS) and gas chromatography-olfactometry (GC-O).

Jordan MJ, Tandon K, Shaw PE, Goodner KL.

U.S. Citrus and Subtropical Products Laboratory, Agricultural Research Service, U.S. Department of Agriculture, 600 Avenue S, N.W., Winter Haven, Florida 33881, USA.

Gas chromatography-mass spectrometry (GC-MS) and gas chromatography-olfactometry (GC-O) were used to determine the aromatic composition and aroma active components of commercial banana essence and fresh banana fruit paste. Totals of 43 and 26 compounds were quantified in commercial banana essence and fresh banana fruit paste, respectively. Five new components in commercial banana essence were identified as methyl butyrate, 2,3-butanediol diacetate, 2-hydroxy-3-methylethylbutyrate, 1-methylbutyl isobutyrate, and ethyl 3-hydroxyhexanoate. A total of 42 components appear to contribute to the aromatic profile in banana. Isoamyl acetate, 2-pentanol acetate, 2-methyl-1-propanol, 3-methyl-1-butanol, 3-methylbutanal, acetal, isobutyl acetate, hexanal, ethyl butyrate, 2-heptanol, and butyl butyrate had high concentrations and were most detected by GC-O panelists in the commercial banana essence. Volatile components found only in fresh banana fruit paste that were detected by aroma panelists include E-2-hexenal, limonene, and eugenol.

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